

## **REMARKS**

Claims 1-25, 27-31 and 34-36 were pending prior to entering this amendment. Claims 1-25, 27-31, and 34-36 are rejected. Claims 2-4, 6, 7, 10-15, 22, 27, 31, and 36 have been amended. Claim 1 has been cancelled. Applicant requests reconsideration and allowance of the pending application.

### **Novel and non-obvious subject matter of claims 2-5**

The Office Action does not include any art rejections for claims 2-5, and moreover, any previous Office Action art rejections associated with these claims have been withdrawn responsive to Applicant's September 18, 2007 amendment. Applicant interprets this as an indication that the subject matter of these claims is novel and non-obvious. Applicant acknowledges the novel and non-obvious subject matter.

Moreover, it is noted that the only other rejection/objection applied to claims 2-5 is a written description rejection based on their dependency to independent claim 1. Thus, these claims appear to contain allowable subject matter if the written description rejection against claim 1 is either withdrawn or overcome, and Applicant acknowledges the same.

### **Claim Rejections Under 35 U.S.C. § 112**

Claim 1-13, 31 and 36 are rejected under 35 U.S.C. § 112, first paragraph based on the written description requirement.

With respect to claim 1, the feature "the inputted reference failure rate being a first quotient of an amount of failures associated with a population of the monitored device and an amount of time" is described in numerous locations, for example, page 2, last paragraph.

Applicant previously identified this portion of this specification as providing support for this feature. See pages 9 and 10 of the Amendment dated September 18, 2007. Because the remarks section of the Office Action does not provide any further clarification to the rejection after application identified supporting text in the Amendment dated September 18, 2007, Attorney Michael Cofield left voicemails with Examiner Suglo on March 13, March 14, and March 17 requesting a telephone interview for clarification of this and other portions of the Office Action. The telephone interview was unable to be provided at that time; therefore, if any

written description rejections remain Examiner Suglo is requested to telephone Attorney Michael Cofield at 503 224 2170, ext. 211, to more specifically identify which portions of the quoted claim terms are believed to be unsupported by the specification text identified in the Amendment dated September 18, 2007. Such further clarification is needed to crystallize and resolve any remaining issues, or to facilitate a clarifying amendment to the rejected subject matter if any such amendments are necessary to expedite prosecution.

With respect to claim 12, the rejection is moot in light of the amendments to claim 12. Similarly, the rejections to claims 2-11, 13, 31, and 36 are moot in light of the remarks above.

### **Claim Rejections Under 35 U.S.C. § 102**

Claims 27, 28, and 30 are rejected under 35 U.S.C. § 102(e) as being anticipated by Gullo, *et al.* (U.S. Patent 6,684,349).

Claim 27, as amended, includes the feature of “outputting a field-adjusted Mean Time Between Failures (MTBF) for the device that is determined by adjusting a predetermined MTBF for the device using the actual operating parameters that are measured while the device is operated for non-testing purposes in the field environment.” None of the cited art discloses at least this feature.

Gullo discloses outputting a projected MTBF for a new design by utilizing an MTBF of an old design. *See* col. 5, lines 50-52, also *see* col. 1, lines 28-51. Thus, Garrow does not disclose outputting a field-adjusted Mean Time Between Failures (MTBF) *for the device* that is determined by adjusting a predetermined MTBF *for the device* using the actual operating parameters that are measured while the device is operated for non-testing purposes in the field environment.

In contrast, claim 27 includes the features of “outputting a field-adjusted Mean Time Between Failures (MTBF) for the device that is determined by adjusting a predetermined MTBF for the device using the actual operating parameters that are measured while the device is operated for non-testing purposes in the field environment.” Thus, for at least this reason, claim 22 should be allowed. In addition, claim 27 has been amended to include subject matter indicated as novel and non-obvious with respect to claim 4, thus claim 27 should be allowed on the basis of at least this additional reason. Claims 28 and 30, being dependent, includes the same features and thus should be allowed for at least the same reasons.

Claims 22 and 31 are rejected under 35 U.S.C. § 102(a) as being anticipated by Garrow, *et al.* (U.S. Patent Application Publication 2002/0194160).

Claim 22 has been amended to include subject matter indicated as novel and non-obvious with respect to claim 4, thus claim 22 should be allowed on the basis of at least this additional reason. Claim 31, being dependent, includes the same features and thus should be allowed for at least the same reasons.

### **Claim Rejections Under 35 U.S.C. § 103**

Claims 1, 6-9, 11, 13, and 36 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Quist, *et al.* (U.S. Patent 6,199,018) in view of Gullo and further in view of Schwaller, *et al.* (U.S. Patent 5,937,165).

Although Applicant traverses the rejection to claim 1 for the reasons that will be explained in the following paragraphs, in the interest of expediting prosecution, Claim 1 has been cancelled. Dependent claims 6-9, 11, 13, and 36 have been amended to change their dependency to claim 4, which was indicated as containing novel and non-obvious subject matter. Thus, the rejection is moot and claims 6-9, 11, 13, and 36 should be allowed.

The rejection of claim 1 is traversed for at least the reason that none of the cited references teach at least the feature of an apparatus operable to “determine an electrical stress adjustment factor using the expected communication capacity utilization and the actual communication capacity utilization; and output an instantaneous failure rate that is a first mathematical product of the inputted reference failure rate, the temperature stress adjustment factor and the electrical stress adjustment factor.”

The Office Action acknowledges that Quist does not disclose an apparatus to “determine an electrical stress adjustment factor *using the expected communication capacity utilization and the actual communication capacity utilization*”; however, the Office Action argues that Quist does disclose the feature of an apparatus to “determine an electrical stress adjustment factor using expected electrical stresses and actual electrical stresses.” *See* page 7 of the Office Action. Applicant disagrees because col. 3, lines 27-36 list the monitored characteristics of the hard drive, and none of these characteristics include electrical stress approximations. *See* col. 3, lines 27-36 indicating that the monitoring device 12 monitors hard drive vibration, temperature of

different hard drive components, and changing magnetic flux indicating changes in the speed that a rotor spins around its stator. Even if Quist discloses that the life expectancy of the hard drive is adjusted based on the vibration, temperature, and rotor spinning speeds, Quist does not disclose that the life expectancy of the hard drive is adjusted based on monitoring electrical stresses as measured by communication capacity or any other approximation.

Schwaller does not cure the deficiencies of Quist. Even if Schwaller did disclose determining the actual communication capacity of a device as alleged in the Office Action, Schwaller does not recognize that the such a determination can be used with an expected communication capacity to approximate electrical stress on the device. Nor does Schwaller disclose adjusting a reference failure rate based on the electrical stress as approximated using the actual and expected communication capacities.

Thus, none of the cited references teach at least the feature of an apparatus to “determine an electrical stress adjustment factor using the expected communication capacity utilization and the actual communication capacity utilization; and output an instantaneous failure rate that is a first mathematical product of the inputted reference failure rate, the temperature stress adjustment factor and the electrical stress adjustment factor.” Accordingly, the rejection of claim 1 is traversed. In any case, claim 1 should be allowed because claim 1 has been amended to include features indicated by the Office Action as novel and non-obvious, as explained above.

Claim 10 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Quist in view of Gullo in view of Schwaller and further in view of Chess, *et al.* (U.S. Patent 5,802,592).

Dependent claim 10 has been amended to change its dependency to claim 4, which was indicated as containing novel and non-obvious subject matter. Thus, the rejection is moot and claim 10 should be allowed.

Claims 14-17 and 19-21 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Gullo in view of Quist.

Claim 14 has been amended to include features which were indicated as containing novel and non-obvious subject matter. Thus, the rejection is moot and claim 14 should be allowed. Claims 15-17 and 19-21, being dependent, include similar features and thus should be allowed for at least similar reasons.

Claim 18 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Gullo in view of Quist and further in view of Hedlund, *et al.* (U.S. Patent 6,516,282).

Claim 18, being dependent, should be allowed for at least similar reasons as its base claim.

Claims 23-25 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Garrow in view of Quist and further in view of Chess.

Claims 23-25, being dependent, should be allowed for at least similar reasons as their base claim.

Claims 29, 34, and 35 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Gullo in view of Schwaller.

Claims 29, 34, and 35, being dependent, should be allowed for at least similar reasons as their base claim.


### **Conclusion**

For the foregoing reasons, reconsideration and allowance of all pending claims of the application as amended is requested. The examiner is encouraged to telephone the undersigned at (503) 224-2170 if it appears that an interview would be helpful in advancing the case.

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Respectfully submitted,

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